Lesson 4: Headings

Web Lab

Overview

In this lesson, students continue to use HTML to structure text on web pages, this time with headings. Students learn how the different heading elements are displayed by default and practice using them to create page and section titles. Students then start to decide how they will organize their content on their own personal web pages. In the last level, students begin the project that they will continue to work on throughout the unit.

Purpose

This lesson introduces the heading tags that students will use in their pages for the rest of the unit. It also reinforces the general structure of HTML (opening tag / content / closing tag) so that students are ready to begin adding their own content in the project.

The personal web page that students work on at the end of the lesson will follow them throughout the unit. As they learn more HTML and CSS, they will improve the page, adding images, colors, and different fonts. This lesson is a chance for them to start the page, knowing that they will continue to improve it over the next few weeks.

Agenda

Warm Up (5 minutes)

- **Tags Poster**

Activity (45 minutes)

- **Pair Programming**
- **Web Lab: Headings**

Wrap Up (5 minutes)

- **Journal**

Objectives

Students will be able to:

- Use heading tags to change the appearance of text on a web page.
- Structure content into headings, subheadings, and paragraphs.

Preparation

- [ ] Have student journals (or project sketches) ready to give back.
- [ ] If you will not use journals to track HTML tags, prepare poster paper to do so as a whole class

Vocabulary

- **Heading** - A title or summary for a document or section of a document.

Introduced Code

- `<h1></h1>`

Teaching Guide

Warm Up (5 minutes)

Tags Poster

Group: Put students into groups of three to four students.

Journal: Have students make a T-chart on a blank page in their journals and label the top "HTML Tags"

Prompt: Yesterday, you learned about HTML, the language of the World Wide Web. HTML uses tags to structure content on web pages. In your groups, think of as many tags as you remember and what they do.

Give students a few minutes to think of as many tags as they can.

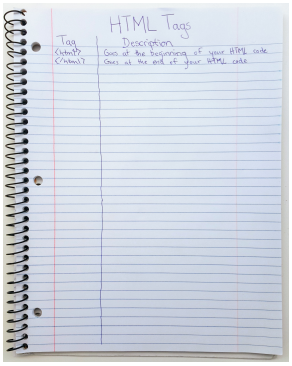
Discuss: Groups should discuss with one another and record their ideas in their journals (or alternately prepare to share on the shared class poster). Afterwards quickly share across the room to make sure all groups have listed all tags.

Remarks

> As we learn more HTML tags, we'll be keeping track of them so we'll have a reference as we make our web pages.

Teaching Tip

Journal or Poster? Throughout this unit students will be keeping track of the tags they learn. This warm up descibes one option for students to record the HTML tags that they learn by writing them in their journals. If you wish you can keep track of the same information on a shared class poster that you update after each lesson. Prompts throughout the unit will tell you when students should update their journals or the class poster.



Discussion Goal

Goal: The goal of this discussion is to review the tags that students saw in the previous lesson.

- `<!DOCTYPE html>` - Tells the computer that this is a document written in HTML
- `<html>` - Indicates the beginning of your code written in HTML
- `<head>` - Contains information (sometimes called "metadata") about your web page
- `<body>` - Contains all the main content of your web page
- `<p>` - Defines a paragraph

Activity (45 minutes)

Pair Programming

Group: students into pairs.

Remarks

> We're going to be working on Web Lab again today, but this time we'll be using **pair programming**. Pair progamming helps people make better programs by working together, but there are some rules we have to follow to make sure it goes well.

Display: Show the Pair Programming video.

Review: Ensure that students understand the rules for pair programming:

- There is only one computer.
- The driver is the only one to touch the keyboard/mouse.
- The navigator should look for problems in the code and keep track of the high-level plan.
- Both driver and navigator should be communicating constantly.
- Driver and navigator must switch when the teacher indicates, typically every couple minutes.

Teaching Tip

Pair Programming: Pair programming is practiced in education and in industry. Students who pair program are more confident in their abilities and are more likely to continue to study computer science. This practice is most effective if it is introduced early and the rules for switching partners are enforced by the teacher. You can read more about Pair Programming in the **Computer Science Discoveries Curriculum Guide**

Web Lab: Headings

Transition: Have pairs go to Code Studio and both log in using the "Pair Programming" feature.

Prompt: students to switch driver and navigator every three minutes.

Code Studio levels

Lesson Overview | **Student Overview**

Pair Programming Student Overview

Headings 3 | 4 | 5 | 6 (click tabs to see student view)

Headings in HTML Teacher Overview | Student Overview

View on Code Studio

Updating the Tags List

This map level recaps the tags that students learned throughout this lesson. Encourage students to use this resource to update their HTML tags list or poster.

Problem Solving Process for Programming Teacher Overview | Student Overview

View on Code Studio

Review the Problem Solving Process

Review the four steps of the Problem Solving Process as a class.

Your Personal Website 9 | 10 (click tabs to see student view)

Wrap Up (5 minutes)

Journal

Prompt: Have students update their "HTML Tags" log with the heading tags they learned in this lesson.

Prompt: Have students reflect on their development of the **Five Practices of CS Discoveries** (Problem Solving, Persistence, Creativity, Collaboration, Communication). Choose one of the following prompts as you deem appropriate.

- Choose one of the five practices in which you believe you demonstrated growth in this lesson. Write something you did that exemplified this practice.
- Choose one practice you think you can continue to grow in. What's one thing you'd like to do better?
- Choose one practice you thought was especially important for the activity we completed today. What made it so important?

Standards Alignment

View full course alignment

CSTA K-12 Computer Science Standards

▶ **AP** - Algorithms & Programming